

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

| | | |
|---|---|--|
| Applicant's or agent's file reference VIB-034-PCT | FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below. | |
| International application No. PCT/EP 03/01229 | International filing date (day/month/year) 07/02/2003 | (Earliest) Priority Date (day/month/year) 08/02/2002 |
| Applicant VLAAMS INTERUNIVERSITAIRE INSTITUUT ... | | |

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 7 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :



contained in the international application in written form.



filed together with the international application in computer readable form.



furnished subsequently to this Authority in written form.



furnished subsequently to this Authority in computer readable form.



the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.



the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☒ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.



as suggested by the applicant.



because the applicant failed to suggest a figure.



because this figure better characterizes the invention.



None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/01229

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07K16/28 A61P43/00 A61K39/00 A61K38/17

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07K A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BIOSIS, EMBASE, MEDLINE, EMBL, SEQUENCE SEARCH

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category ° | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| X | DATABASE EMBL 'Online! 23 March 2001 (2001-03-23) HUMAN GENOME SCI INC: "Human secreted protein no.3" Database accession no. AAB64995 XP002251074 abstract | 1,2 |
| X | & WO 00 75375 A (HUMAN GENOME SCI INC) 14 December 2000 (2000-12-14) --- -/-- | 1-3 |

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

° Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- * & * document member of the same patent family

Date of the actual completion of the international search

13 August 2003

Date of mailing of the international search report

24/10/2003

Name and mailing address of the ISA

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Authorized officer

Irion, A

INTERNATIONAL SEARCH REPORT

International Application No

PCT/E 8/01229

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category ° | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|-----------------------|
| X | DATABASE EMBL 'Online! 23 March 2001 (2001-03-23) HUMAN GENOME SCI INC: "Gene no.3 associated peptide no.3" Database accession no. AAB65031 XP002251075 abstract | 1,2 |
| X | & WO 00 75375 A (HUMAN GENOME SCI INC) 14 December 2000 (2000-12-14) --- | 1-3 |
| Y | WO 97 41224 A (AMCELL CORP) 6 November 1997 (1997-11-06) page 6, line 6 -page 7, line 18 page 13, line 8 - line 32 page 19, line 24 -page 22, line 9 --- | 1-3 |
| Y | PEICHEV MARIO ET AL: "Expression of VEGFR-2 and AC133 by circulating human CD34+ cells identifies a population of functional endothelial precursors." BLOOD., vol. 95, no. 3, 1 February 2000 (2000-02-01), pages 952-958, XP002251073 ISSN: 0006-4971 the whole document ----- | 1-3 |

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 1-2

Present claims 1-2 relate to a product/compound defined by reference to a desirable characteristic or property, namely the inhibition of the expression and/or activity of prominin-1.

The claims cover all products/compounds having this characteristic or property, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for only a very limited number of such products/compounds/methods/apparatus. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the product/compound by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible. Consequently, the search has been carried out for those parts of the claims which appear to be clear, supported and disclosed, namely those parts relating to the products/compounds being

1. antibodies against prominin-1
2. anti-sense nucleic acids being based on the prominin-1 sequence
3. short interference RNA being based on the prominin-1 sequence
4. peptides being based on the prominin-1 sequence

as indicated on p. 4 l. 10 - 7 l. 2 of the present application.

Present claims 1-2 relate to an extremely large number of possible compounds/products. Support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT is to be found, however, for only a very small proportion of the compounds/products claimed. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Consequently, the search has been carried out for those parts of the claims which appear to be supported and disclosed, namely those parts relating to the compounds/products

being

1. an anti-prominin-1 antibody,
2. anti-sense nucleic acids being based on the prominin-1 sequence
3. short interference RNA being based on the prominin-1 sequence
4. peptides being based on the prominin-1 sequence

as indicated on p. 4 l. 10 - 7 l. 2 of the present application.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP 03/01229

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

Although claim 3 is directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☒ Claims Nos.: 1-2
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 03/01229

| Patent document cited in search report | | Publication date | Patent family member(s) | Publication date |
|---|---|---------------------|----------------------------|---------------------|
| WO 0075375 | A | 14-12-2000 | AU 5458300 A | 28-12-2000 |
| | | | CA 2383828 A1 | 14-12-2000 |
| | | | EP 1206573 A1 | 22-05-2002 |
| | | | JP 2003501072 T | 14-01-2003 |
| | | | WO 0075375 A1 | 14-12-2000 |
| | | | US 2002183503 A1 | 05-12-2002 |
| | | | US 2002028449 A1 | 07-03-2002 |
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| WO 9741224 | A | 06-11-1997 | US 5843633 A | 01-12-1998 |
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| | | | AU 720938 B2 | 15-06-2000 |
| | | | AU 2682197 A | 19-11-1997 |
| | | | CA 2251604 A1 | 06-11-1997 |
| | | | EP 0953046 A1 | 03-11-1999 |
| | | | JP 2000509277 T | 25-07-2000 |
| | | | WO 9741224 A1 | 06-11-1997 |
| | | | US 2001051372 A1 | 13-12-2001 |